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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,469	07/29/2003	Krishna Darbha	END920010115US2	7302
7590 02/03/2004 Schmeiser, Olsen & Watts 3 Lear Jet Lane, Suite 201 Latham, NY 12110			EXAMINER NGUYEN, DILINH P	
			ART UNIT 2814	PAPER NUMBER
DATE MAILED: 02/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

RF

Office Action Summary

Application No.

10/629,469

Applicant(s)

DARBHA ET AL.

Examiner

DiLinh Nguyen

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-13 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 21-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12, 22, 27 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase: "...a first segment and a second segment of the plurality of segments are not congruent with respect to each other..." is not understood.

The drawings fail to disclose a first segment and a second segment of the plurality of segments are not congruent with respect to each other. How are a first segment and a second segment of the plurality of segments not congruent with respect to each other?

The phrase: "...the substrate is not symmetrically coupled to each segment of the semiconductor device..." is not understood.

The drawings fail to disclose the substrate is not symmetrically coupled to each segment of the semiconductor device. How is the substrate not symmetrically coupled to each segment of the semiconductor device?

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 9, 11, 21, 23, 25-26, 28 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin (U.S. Pat. 6301121).

- Regarding claims 9 and 25, Lin discloses a semiconductor device (fig. 2) comprising:

a substrate 110, wherein the substrate is selected from the group consisting of a printed circuit board (column 4, line 36); and

a semiconductor device 120 electrically coupled to the substrate, wherein the semiconductor device is divided into a plurality of segments 120-1 to 120-3.

- Regarding claims 11 and 28, Lin discloses a first segment and a second segment of the plurality of segments are congruent with respect to each other.
- Regarding claim 21, Lin discloses the substrate is symmetrically coupled to each segment of the semiconductor device.
- Regarding claims 23 and 32, Lin discloses the semiconductor device is a semiconductor chip.
- Regarding claim 26, Lin discloses each segment of the semiconductor device is symmetrically coupled to the substrate.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2814

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10, 13 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Pat. 6301121) in view of Saito et al. (U. S. Pat. 5479335).

Lin fails to disclose the length of each segment of the semiconductor device is greater than or equal to 5 millimeters.

Saito et al. disclose a device comprising: a chip size is from a few millimeters square to 20 millimeters square (column 14, lines 9-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Lin to reduce the chip size and improve the device's efficiency, as shown by Saito et al.

3. Claims 24 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Pat. 6301121) in view of Nagarajan et al. (U. S. Pat. 6639321).

Lin fails to disclose the substrate comprises a coefficient of thermal expansion that is greater than a coefficient of thermal expansion of the semiconductor device.

Nagarajan et al. disclose a semiconductor device (cover fig.) comprising: a substrate 108 comprises a coefficient of thermal expansion that is greater than a coefficient of thermal expansion of the semiconductor device 202 (column 5, lines 19-23). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Lin to reduce mismatch of a coefficient of thermal expansion of the die with the substrate, as shown by Nagarajan et al.

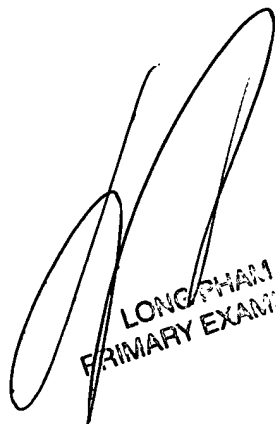
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DLN
January 27, 2004



LONG PHAM
PRIMARY EXAMINER